

Notice of Allowability

Application No.

10/784,037

Examiner

Timothy L. Rude

Applicant(s)

OZAWA ET AL.

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 10 January 2007.
2. ☒ The allowed claim(s) is/are 1-3 and 6-34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/255,121.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 20061204.
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



David Nelms
Supervisory Patent Examiner
Technology Center 2800

tlr

DETAILED ACTION

Drawings

The drawings filed 10 January 2007 are accepted by examiner.

Claims & Claim Objections

Claims 4 and 5 are canceled by Applicant. Claims 1, 9, and 18 are amended. Objections to claims 1 and 18 are withdrawn. Claims 19-34 are added.

Claim Rejections - 35 USC § 112

Rejection of claims 1-3 and 6-18 under 35 U.S.C. 112, second paragraph, are withdrawn.

Allowable Subject Matter

Claims 1-3 and 6-34 are allowed.

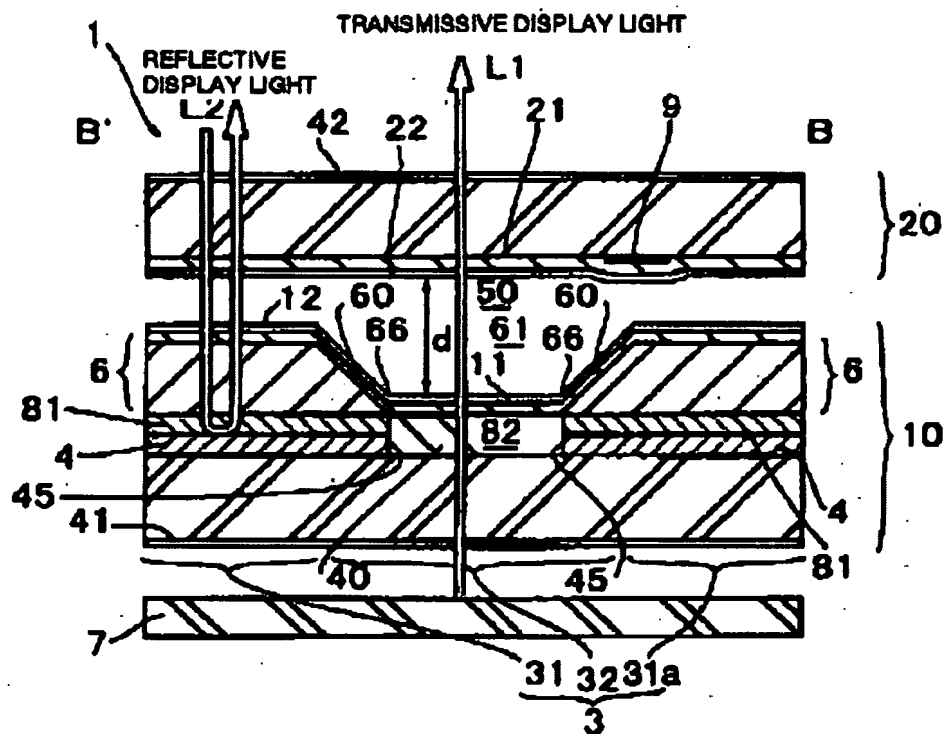
The following is an examiner's statement of reasons for allowance:

As to independent claims 1, 9, 19, and 20, relevant prior art did not teach, alone or in combination, the transfective liquid crystal display device as claimed comprising a thickness adjusting layer, 6, having an edge substantially proximate to the transmissive display region and a sloping section, 60, that extends from the edge in a direction away

from the corresponding substrate, the edge of the thickness adjusting layer and the slope at least adjacent to the edge being overlapped by a portion of the light-reflecting layer, 4. This structure prevents unwanted transmitted light leakage through the sloped region.

Figure 6(B):

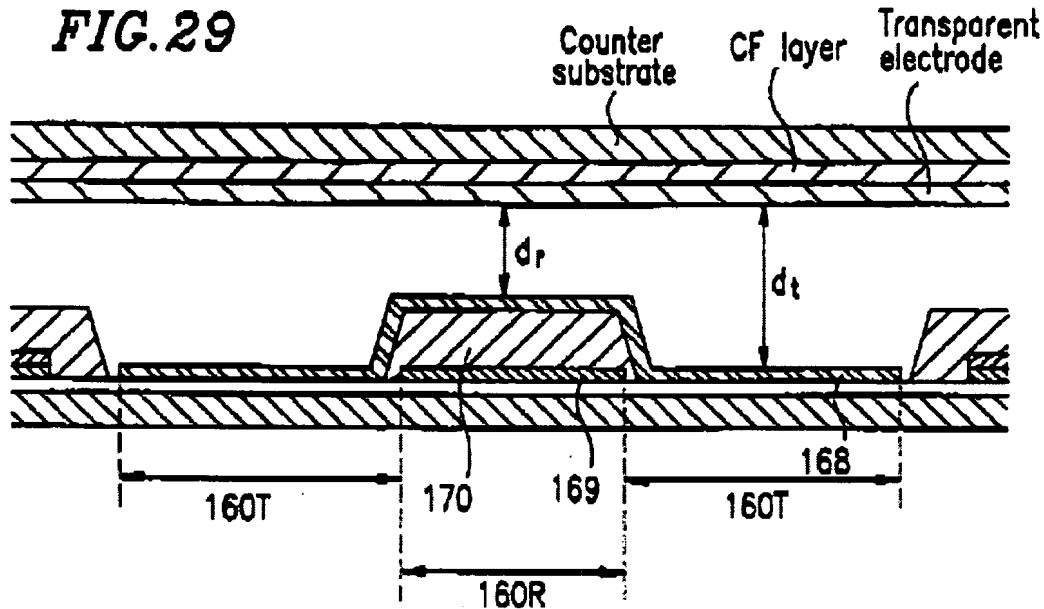
(B)



The closest combination is Kubo et al (Kubo) USPAT 6,195,140 B1 in view of Kim et al (Kim) USPAT 6,522,377.

Kubo discloses a transfective liquid crystal device [electronic apparatus, TFTs] comprising:

a first substrate [bottom];



a second substrate [top]; and a liquid crystal layer held between the first substrate and the second substrate, wherein the first substrate includes:

a light-reflecting layer, 169, overlapping reflective display regions in plan view in pixel regions and in a non-overlapping condition with transmissive display regions in the regions of the pixel regions other than the reflective display regions; and

a thickness-adjusting layer, 170, setting the thickness of the liquid crystal layer in the reflective display regions to be smaller than the thickness of the liquid crystal layer in the transmissive display regions; and

slopes are formed in the thickness-adjusting layer at a transition between each reflective display region and transmissive display region; and

edges of the light-reflecting layer adjacent the transmissive display regions are substantially aligned with bottom edges of the slopes of the thickness-adjusting layer [steep slope so reads on substantially aligned per Figure 29].

Kubo does not explicitly disclose a device further comprising reflective-display color filters in the reflective display regions and transmissive-display color filters, which are colored more strongly than the reflective-display color filters, in the transmissive display regions.

Kim teaches the use of reflective-display color filters in the reflective display regions and transmissive-display color filters [col. 8, lines 5-25], which are colored more strongly than the reflective-display color filters, in the transmissive display regions [strength of color is set by thickness and by presence of non-colored material 106] to avoid an unwanted difference in color purity between the reflective and transmissive portions of the display [col. 4, lines 1-20].



As to claims 2-3, 6-8, 10-18, and 21-34, they are directly or indirectly dependent upon claims with allowable subject matter above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

References cited but not applied are relevant to the instant Application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L. Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Mon-Thurs.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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